

NORTHWEST MONTANA WETLAND MANAGEMENT DISTRICT

Kalispell, Montana

and

Moiese, Montana

ANNUAL NARRATIVE REPORT

Calendar Year 1994

U.S. Department of Interior

Fish & Wildlife Service

National Wildlife Refuge System

REVIEW AND APPROVALS

NORTHWEST MONTANA WETLAND MANAGEMENT DISTRICT

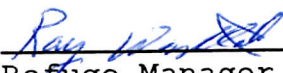
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<u></u>	<u>5/5/96</u>	<u>David Wiseman</u>	<u>9/5/96</u>
Refuge Manager	Date	Project Leader	Date

<u></u>	<u>9/17/96</u>
Refuge Supervisor Review	Date

<u></u>	<u>9/19/96</u>
Regional Office Approval	Date

INTRODUCTION

Waterfowl Production Areas of the Northwest Montana Wetland Management District are located in Lake and Flathead counties in northwestern Montana. The Wetland District is a satellite unit of the National Bison Range.

Lake County WPA's are located 3-to-9 miles north and northeast of the National Bison Range. The 8 WPA units, Duck Haven, Herak, Kickinghorse, Montgomery, Sandmark, Crow, Johnson 80, and Anderson total 3,063 acres. They are located in an area of glacial and lake bed soil deposits and are part of an area of numerous glacial kettles which were formed during the 100,000 year Wisconsin glaciation. Lake County WPA's have been administered from the National Bison Range since first acquisition in 1974.

Flathead County units total 4,458 acres and include Batavia, Flathead, Smith Lake, and Blasdel WPA's.

Flathead WPA (2,370 acres) consists of 7 miles of lake shoreline and upland along the north end of Flathead Lake, including remnants of "delta" islands at the mouth of the Flathead River.

Batavia and Smith Lake WPA's are located in the Smith Valley, 4 and 10 miles respectively, west-southwest of Kalispell. The 535-acre Blasdel WPA is located approximately 1½ miles north of Flathead Lake in what is known as the "lower valley" area of Flathead County.

Flathead County WPA's are administered as satellite units by the on-site Refuge Manager, who is headquartered at the Creston Fish and Wildlife Center, Creston, Montana (Section E.1).

TABLE OF CONTENTS

A.	HIGHLIGHTS	7
B.	CLIMATIC CONDITIONS	8
C.	LAND ACQUISITION	9
	1. Fee Title	9
	2. Easements	10
	3. Other	11
D.	PLANNING	12
	1. Master Plan	Nothing to Report
	2. Management Plan	Nothing to Report
	3. Public Participation	Nothing to Report
	4. Compliance with Environmental & Cultural Resource Mandates	12
5.	Research & Investigations	13
6.	Other	Nothing to Report
E.	ADMINISTRATION	14
	1. Personnel	14
	2. Youth Programs	Nothing to Report
	3. Other Manpower Programs	Nothing to Report
	4. Volunteer Programs	15
	5. Funding	16
	6. Safety	17
	7. Technical Assistance	17
	8. Other	17
F.	HABITAT MANAGEMENT	18
	1. General	Nothing to Report
	2. Wetlands	18
	3. Forests	Nothing to Report
	4. Croplands	20
	5. Grasslands	20
	6. Other Habitats	Nothing to Report
	7. Grazing	21
	8. Haying	22
	9. Fire Management	22
	10. Pest Control	22
	11. Water Rights	23
	12. Wilderness & Special Areas	Nothing to Report
	13. WPA Easement Monitoring	24

G.	WILDLIFE	25
1.	Wildlife Diversity	Nothing to Report
2.	Endangered and/or Threatened Species	25
3.	Waterfowl	25
4.	Marsh and Water Birds	33
5.	Shorebirds, Gulls, Terns & Allied Species	33
6.	Raptors	33
7.	Other Migratory Birds	34
8.	Game Mammals	35
9.	Marine Mammals	Nothing to Report
10.	Other Resident Wildlife	35
11.	Fisheries Resources	36
12.	Wildlife Propagation & Stocking	Nothing to Report
13.	Surplus Animal Disposal	Nothing to Report
14.	Scientific Collections	Nothing to Report
15.	Animal Control	36
16.	Marking and Banding	36
17.	Disease Prevention & Control	Nothing to Report
H.	PUBLIC USE	38
1.	General	38
2.	Outdoor Classrooms-Students	Nothing to Report
3.	Outdoor Classrooms-Teachers	Nothing to Report
4.	Interpretive Foot Trails	Nothing to Report
5.	Interpretive Tour Routes	Nothing to Report
6.	Interpretive Exhibits/ Demonstrations	Nothing to Report
7.	Other Interpretive Programs	38
8.	Hunting	38
9.	Fishing	40
10.	Trapping	41
11.	Wildlife Observation	Nothing to Report
12.	Other Wildlife Oriented Recreation	Nothing to Report
13.	Camping	Nothing to Report
14.	Picnicking	Nothing to Report
15.	Off-Road Vehicling	Nothing to Report
16.	Other Non-Wildlife Oriented Recreation	Nothing to Report
17.	Law Enforcement	41
18.	Cooperating Associations	Nothing to Report
19.	Concessions	Nothing to Report

I.	EQUIPMENT AND FACILITIES	42
1.	New Construction	43
2.	Rehabilitation	Nothing to Report
3.	Major Maintenance	Nothing to Report
4.	Equipment Utilization & Replacement	
5.	Communication Systems	Nothing to Report
6.	Computer Systems	Nothing to Report
7.	Energy Conservation	Nothing to Report
8.	Other	Nothing to Report
J.	OTHER ITEMS	44
1.	Cooperative Programs	Nothing to Report
2.	Other Economic Use	Nothing to Report
3.	Items of Interest	Nothing to Report
4.	Credits	44
K.	FEEDBACK	44
L.	INFORMATION PACKET	

A. HIGHLIGHTS

Flathead County

Total yearly precipitation in Flathead County resulted in one of the driest years on record. (Section B).

Some progress was made concerning both the Bonneville Power Administration (BPA) and Kerr Dam mitigation programs. (Section C.3).

Acquisition needs in Flathead County continued to be low priority for the region despite our requests for help (Section C.1).

Duck production increased nearly 14 percent, Canada goose production increased 21 percent (Section G.3).

Lake County

Several Five Valleys Wetland Conservation Project goals were initiated or completed including the first acquisitions of Conservation Easements to prevent housing development around WPA's. There were also several releases of insect biocontrols to help combat purple loosestrife (Sections C.2, F.10).

Breeding populations and nesting success of ducks and other ground nesting birds reached new highs in the Ninepipe skunk removal area due to skunk control since 1988. Production was likely the highest since the late 1930's (Sections G.5 and F.3).

The Partners for Wildlife Program expanded and over 120 acres of wetlands were restored/enhanced on private lands, along with 12 acres on Service lands (Section F.2).

Mollie Beattie, Director of the U.S. Fish and Wildlife Service (Service), visited Sandmark WPA and Ninepipe NWR during her visit to western Montana. She talked with Montana Cooperative Wildlife Research Unit leader Joe Ball about nest success surveys and predator dynamics in the Ninepipe ecosystem.

B. CLIMATIC CONDITIONS

Following the second-wettest year on record, 1994 turned out to be one of the driest. A total of 12.68 inches of precipitation fell in 1994. The driest year on record was 1929 when only 10.4 inches of rain was recorded. This year's precipitation was 23 percent below the 30-year-average of 16.51 inches.

Precipitation in March totalled .08 inches making it the driest on record. The previous low was .20 inches recorded in March of 1926. Precipitation in October totalled 2.37 inches compared to the 30-year-average of .87 inches. The summer months were very dry. Less than .14 inches of precipitation were measured in July, compared with a record 6 inches in 1993. Rainfall totalled only 2.3 inches during the 3 summer months. Most wetlands in the county were ice-free by April 1.

The low for the year was -21° on February 8; the yearly high was 96° recorded in both July and August. March saw a record high of 67° on the 31st and a record monthly low of 32° was recorded on June 8. The rest of the year saw monthly temperatures remain near normal until October when the first snow of the year was recorded. Surrounding mountains received nearly a foot of snow with drifts up to 4 feet in Glacier National Park. Weather conditions moderated in November and December. Snowfall for those 2 months totalled 13.4 inches. Other areas in the county received considerably more. Wetlands froze in October, then thawed. By November 10, all wetlands were permanently iced-over. At year's end, Flathead Lake and other creeks in the county were ice-free and only 3 inches of snow remained on the ground.

Table I. 1994 Climatic Data, Flathead County WPA's*

MONTH	TEMPERATURE		PRECIP.-INCHES		SNOWFALL-1994 INCHES
	HIGH	LOW	1994	30-YR AVG.	
January	41	-22	1.67	1.53	17.8
February	38	-21	.61	1.10	9.7
March	62	1	.62	1.02	2.5
April	65	27	2.20	1.10	.3
May	90	27	1.93	1.87	
June	86	34	3.46	2.21	
July	85	39	6.02	1.12	
August	86	31	1.49	1.40	
September	83	28	1.61	1.26	
October	73	20	1.01	.87	
November	53	-14	1.20	1.30	16.6
December	47	9	1.58	1.73	14.4
Totals			16.51"		61.3"

* Weather data for Flathead County WPA's is recorded at the National Weather Service Office at Glacier Park International Airport, Kalispell, Mt.

Weather conditions for Lake County WPA's were similar to those for the National Bison Range which can be found in that report.

C. LAND ACQUISITION

1. Fee Title

In 1994, land acquisition items in Flathead County continued to be bogged down. The delay and apparent lack of interest by the Regional Office seemed to be the problem. A request for an appraisal for a 20-30 acre trade, adjacent to Smith Lake WPA submitted in early 1993 was not acted on in 1994 despite the fact the proposal was resubmitted again in December. Luckily the landowner has been patient and still wants to "trade" with the Service. It is hoped that the appraisal can be done in 1995. Delays such as this not only give field personnel a bad image, but also delay what are often "good deals" for the resource. With land prices at a

continued premium and development "out of control" in the Flathead Valley even small tracts such as this are important resource acquisitions; the realty business in western Montana needs more careful scrutiny or we, as a resource agency stand to lose much.

2. Easements

A road easement was granted to a 290-acre development owned by a California developer and overlooking Smith Lake WPA. The easement was through a 20-foot corner of the WPA. Regional Office Realty did not think we could prevent the easement so we used it as a bargaining tool to encourage compatible land use restrictions in the homeowner's association.

In 1994, the Service negotiated a right-of-way easement on Flathead WPA with the Montana Land Reliance and a private third party. Access across an existing Service access road was granted to an individual who had purchased a 29-acre tract adjacent to the WPA. Conditions of the right-of-way included a conservation easement with the Land Trust, limited development on the tract and several other restrictions which will ecologically enhance the private tract as well as preserving the integrity of the WPA. In addition, the landowner agreed to several road maintenance items. The alternative was development of a new access road to the tract adjacent to the existing lane and loss of all easement/right-of-way covenants.

In recent years, scientists and managers have recognized the critical importance of Western Montana intermountain valley ecosystems to many species of wildlife. The U.S. Fish and Wildlife Service's acquisition program seeks to link valuable wildlife areas that are now fragmented. The Five Valleys Wetland Conservation Plan proposed to buy conservation easements and create blocks of wildlife habitat and corridors on private lands. The Project got underway late in 1994 after many contacts by Bill West and Jon Malcolm. Senator Conrad Burns called for information in January and expressed his support. West talked at the annual Conservation Day sponsored by the Lake County Conservation District. In February, Malcolm and West provided a tour for Missoula Conservation Realtor Bruce Bugbee and Henry Little and David Sutherland of the Conservation Fund. Mike Hines of the Regional Realty Office initiated landowner contacts in April and visited throughout the summer for appraisal work. Conservation easements on a total of 776 acres under two property owners were purchased

with funds provided through the Migratory Bird Fund. These purchases protected critical wetlands and upland habitat near Crow and Duckhaven WPA's. Many other landowners contacted the Service and several offers were pending at year's end.

An issue of concern surfaced April 29 when Malcolm and West met with the Confederated Salish and Kootenai Tribal Council on progress of the project. Two previous unanimous Tribal Council Endorsements in 1992 and 1993 were reversed. Vice-chair Rhonda Swaney demanded any easements purchased with the Land and Water Conservation Fund be held by the Tribal Government. During her visit, Director Mollie Beattie discussed the issue with Ms. Swaney but no amicable resolution was reached.

3. Other

The potential for acquisition/enhancement of wetlands within the district under the BPA and Kerr mitigation programs continued to be hampered this year, although much time was spent in attending meetings and submitting enhancement project proposals. Continued bureaucratic foot-dragging by Advisory Board members, the introduction of unrelated mitigation proposals, and a reluctance by the State to actively meet waterfowl mitigation goals through wetland purchases or easements delayed any potential progress.

In 1994, the State of Montana held public hearings on their revised mitigation plan for the Libby and Hungry Horse hydro-projects. Results of the hearings led to several revisions of the draft mitigation document. Revisions include acreage for lost riparian habitat. A further result of this is a deduction of the original wetland loss assessments; in short, "prime" wetland habitat associated with the two projects has decreased from the original mitigation plan. The final plan is due out in mid-summer 1995. It is hoped that we will see some positive action by the state in the near future. The entire BPA mitigative process has been frustrating and is an example of ineffectiveness and ineptitude on the part of the State. The State has done nothing to effectively mitigate wetland losses caused by past hydro-electric development here in northwest Montana. Staff members of the Bison Range, Assistant Manager Washtak and ES personnel located at Creston continued to attend various mitigation meetings. As time goes on, we continue to see more and more development and loss of the wetland base in both Flathead and Lake counties.

Acquisition/mitigation under the Kerr mitigation plan moved ahead slowly this year. In July, the Federal Energy Regulatory Commission (FERC) officials held public hearings on a draft evaluation of the Montana Power Company's erosion remedial action plan (on Flathead WPA). Public reaction to FERC's recommendation of a 6-to-12 inch drawdown of Flathead Lake to reduce erosion along the shorelines of Flathead WPA was met with strong opposition. Several other recommendations were also included. The preferred mitigation action (supported by the Service) is construction of an off-shore revetment and development of a wetland base "behind" the revetment. At year's end, FERC was working on the draft mitigation document. Other Service involvement included submission of 4(e) conditions and subsequent approval of these conditions by the Service/Interior. In 1995, we hope to see a final, approved mitigation plan. This will hopefully, lead to actual mitigation on the WPA for past erosion losses.

D: PLANNING

4. Compliance with Environmental & Cultural Resource Mandates

In April, we attempted to gather public support to save the barn on Blasdel WPA. Interested individuals were scheduled to clean out old debris and repair its sagging roof; however, the hantavirus concern eliminated this effort. Nothing else was done to the structure and it continues to stand. In 1995, Rhoda Lewis, R.O. archeologist will visit the site in an attempt to resolve this long standing issue.

Appropriate archeological surveys were completed for the right-of-way permit/easement on Flathead WPA.

Work was started on compatibility and environmental assessments for the Ninepipe, Pablo and Swan NWR's and the Wetland Districts. The draft is expected to be finished and available for public comment in 1995. This refuge was allowed an extension on the compatibility deadline because the Project Leader retired in April and the position was still not filled at year's end. Difficult issues related to Confederated Salish and Kootenai Tribal cattle on Ninepipe and Pablo NWR's also contributed to the delayed compatibility determinations.

5. Research and Investigations

Ninepipe NR-87 - Nest Success of Upland Nesting Ducks in Relation to Predator Removal

This was the ninth year of study by the Montana Cooperative Wildlife Research Unit on Lake County wetlands in a 17-square-mile predator (skunk) control area. Tom Fondell's graduate studies are a follow-up to earlier studies by Nate Hall and Kurt Foreman. This long-term study was initiated after 3 years of data indicated Mayfield nest success was only 20.7 percent (1986-88). Predator removal was initiated in 1988 and 1994 was the last year of lethal skunk control for the study, as the catch has declined steadily. Skunks were still trapped but then released. Passive control measures have included covering old irrigation water culverts with bars, removing rock piles and old buildings, screening the base of old buildings and filling dens in irrigation ditch banks with cement.

Three nest searches were conducted this year on 498 acres of managed cover and 268 acres of pasture in the skunk control areas surrounding Ninepipe NWR. There were 48 acres of alfalfa and 110 acres of pasture searched at Pablo NWR and 142 acres of idle grassland searched at Sloan's Lake (non-control areas). In managed cover within the skunk control area, 408 duck nests were found for a density of .82 nests per acre. Mayfield nest success was 49 percent for all species and 55 percent for mallards. This compared to 23 percent Mayfield for all species and 28 percent for mallards found in the non-control comparison areas at Pablo NWR and Sloan Lake, where 62 nests were found for a density of .21 nests per acre.

Searches for other species of ground nesting birds yielded a total of 222 nests of 10 different species on the 3 study areas. Sample size was not sufficient to allow comparison of nest success between the skunk control and non-control areas. Overall Mayfield nest success for species with greater than 5 nests ranged from 100 percent for ring-necked pheasant to 12 percent for savannah sparrow. The most common nests found were those of savannah sparrow at 77 nests and 12.1 percent Mayfield success, short-eared owl with 63 nests and 52.3 percent Mayfield, western meadowlarks at 27 nests and 27.8 percent, ring-necked pheasant at 19 nests and 100 percent and northern harrier at 15 and 49 percent.

E. ADMINISTRATION

1. Personnel

All WMD personnel, with the exception of Assistant Manager Washtak and north valley seasonal employees, are headquartered at the National Bison Range. For a complete summary of personnel status and staff photo see the NBR Narrative.

Administration, operation, and maintenance of Lake County WPA's is the responsibility of personnel at the National Bison Range.

On-site management and administration of WPA's in Flathead County is the responsibility of the Assistant Manager, who is headquartered at the Creston Fish and Wildlife Center. The Center is located approximately 15 miles east of Kalispell and 71 miles north of the Bison Range. The Fish and Wildlife Center is the only Service facility in Flathead County. Several other Service divisions, including Ecological Services, Fish and Wildlife Management Assistance, and Hatcheries are also headquartered at the Center. In 1994, there were a total of 12 full-time employees assigned to the various divisions.



Figure 1.

Ray Washtak, on-site Refuge Manager for Flathead County WPA's.

In June, John Skramstad was hired on a 30-day emergency appointment to assist with WMD and Refuge operations in Flathead County. His appointment was extended an additional 30 days due to on-going field projects.

Daily clerical support for the WMD operations in Flathead County is provided by the Administrative Support Assistant and Office Assistant at the Fish and Wildlife Center office. Office space and clerical assistance at Creston is provided on a cooperative reimbursable basis. The Office Assistant at the Bison Range provides refuge budget tracking and other refuge related administrative assistance.

4. Volunteers

In January and February, members of Flathead Wildlife spent several days repairing and installing nesting material in goose structures on the WPA's in Flathead County.

Volunteer Justin Paugh continued monitoring and maintenance of bluebird boxes on the local "bluebird trail" in Flathead County. Part of Justin's monitoring included the nest boxes along the boundary of Smith Lake and Batavia WPA, (Section G.7).

In January, the agricultural biology class at the H.E. Robinson Vo-Ag center in Kalispell constructed 6 floating goose/duck structures. The effort involved about 12 students and an estimated 288 volunteer hours. In early March, the structures were put out with the assistance of several of the students (Figure 2).



Figure 2. High school vo-ag students built six of these floating structures. The structures serve a dual purpose by providing nesting sites for Canada geese as well as ducks. Two of the structures were used the first year. RW 3/94

In May, Jake Tiesman volunteered 5 days assisting with duck pair counts.

Charles and Shirley Keller from Indianapolis spent the month of June helping with bird surveys at the National Bison Range and its outlying areas in Lake County. They spent time looking for tern and shorebird nests on Crow and Duckhaven WPA's.

5. Funding

Operational funding for the entire Wetland District is included in the annual appropriation of the National Bison Range Complex. Funding for WPA's in Flathead County and the Swan River NWR is broken down separately based on annual work plan requests submitted by the Assistant Manager at Creston. For FY 94, "north valley" O & M funding targets totalled \$73,000. A preliminary amount of \$70,000 has been targeted for FY 95.

Table II summarizes past funding for the north valley program.

Table II. Annual Appropriations, Flathead County WPA's and Swan River National Wildlife Refuge

FY	O & M	ADDITIONAL FUNDING
91	65,100	\$18,400 (Maint. 1262 funds)
92	69,200	
93	69,000	
94	73,000	
95	70,000	

6. Safety

North valley refuge personnel attended safety meetings when conducted at the Fisheries Center. Manager Washtak completed annual L.E. in-service training.

Staff members stationed at the National Bison Range attended routine safety meetings. See the Bison Range Narrative for details.

7. Technical Assistance

Manager Washtak completed mourning dove surveys in Flathead and Lincoln Counties. As in past years, few doves were observed due to normal, cool May weather.

Lynn Clark of National Bison Range Staff completed the St. Regis Breeding Bird Survey in Sanders County and the mourning dove survey in Sanders County. Pat Jamieson of the NBR judged the Lake County 4-H Fair wildlife and forestry categories.

8. Other

Meetings and/or training attended this year included:

R. Washtak, and B. West:

Coordination, planning, and advisory board meetings with BPA, Service, MDFWP, MPC, Forest Service biologists and other special interest groups concerning

BPA/Kerr mitigation. Washtak also attended the annual L.E. Re-certification in February in Marana, Arizona.

West obtained \$21,000 per year of additional grant funding for purple loosestrife control from the BPA Wildlife Mitigation Trust Fund, administered by Montana Department of Fish, Wildlife and Parks.

In late October, ES division at the Creston Fish and Wildlife Center proposed that all divisions "complex" under one supervisor. This proposal came under the auspices of Ecosystem Management. The division of Refuges opposed this concept because supervisory and budgetary matters would have been relinquished. At year's end a meeting was scheduled for January for discussion of this proposal by the various ARD's of each affected division and the Missouri/Yellowstone/Wyoming ecosystem team.

F. HABITAT MANAGEMENT

2. Wetlands

Dean Vaughan, Private Lands Technician at the Bison Range, continued investigating several wetland development opportunities in both Flathead and Lake counties. Funds and technical assistance are provided through the Partners for Wildlife Program for wetland restorations, enhancements, establishments, stream channel restoration and a variety of upland practices such as fencing, grazing management, seeding of native grasses and noxious weed control for properties in the Flathead Valley and throughout western Montana. The Fish and Wildlife Service's Western Montana Partners for Wildlife Program, began in 1990. It seeks to improve and protect fish and wildlife habitat on private lands through alliances between the U.S. Fish and Wildlife Service, other federal agencies, state agencies, Indian tribes, private organizations and individuals while leaving the land in private ownership. This year's projects included 8 Wildlife Extension Agreements, 50 wetland sites (a total of 66 acres), 2 upland sites (a total of 60 acres), a 15-acre riparian site, and 1 mile of instream fisheries enhancement work. Vaughan also reviewed and consulted on several other projects.

With near average temperatures and below average precipitation in the first 3 months of the year, water levels in most north valley wetlands appeared inadequate.

However, 18 inches of snowfall in February and above average precipitation in April resulted in good water conditions throughout the county (Figure 3).



Figure 3. Water levels in most of Flathead County were in good shape due to precipitation and snowmelt. RW 4/94

Despite adequate water levels in April, warmer temperatures and dry conditions in May resulted in a return of drier conditions. Reed canary grass meadows on Smith Lake WPA were basically dry by June. Water levels on Blasdel WPA were also at an all time low. Only our recharge capabilities on Batavia kept that WPA from drying up. A total of .31 inches of precipitation in July and August resulted in continued dry wetland basins throughout the county. Conditions improved slightly with October's rainfall of 2.37 inches, however the fall months generally left county wetland levels below normal heading into the winter months. At year's end snowpack in Montana's western mountain ranges was up to 40 percent below average.

The Bureau of Reclamation provided \$30,000 of "Drought Relief Funds" to help with the pumping of water into glacial potholes on Crow WPA. Acquired with the funds were a pump, 1 mile of 10-inch aluminum irrigation pipe and diesel fuel. A dozen wetlands were filled, totalling about 25 surface-acres. One of the better duck banding sites was a recently recharged wetland. Pumping was stopped on August 12 as no more water was available from the irrigation project.

4. Croplands

Barley plantings on Blasdel WPA were not rotated again this year. In past year's rest/fallow rotations were utilized in an effort to control Canada thistle. Our efforts apparently were successful and the fields were planted to barley again this year. This cooperative farming was done on a 70-30 share with the cooperator harvesting 70 percent of the crop, while the other 30 percent remains as a fall/winter food source. This year the fields were used by excellent numbers of waterfowl searching for waste grain. Cropping the entire field also resulted in "good PR" with local farmers who have complained about depredating waterfowl in their fields in past years.

Five acres of barley were also planted in Unit 8 on Blasdel. The entire field was left unharvested as an additional food source for wildlife.

Farming on Lake County WPA's involves four 20-acre plots on Crow WPA that are farmed on contract. Three units are on wheat-wheat-fallow rotations and one unit is on a wheat-black medic-wheat rotation. Black medic has been an excellent green follow rotational crop in this relatively dry climate. The grain is all left for waterfowl food.

The Ninepipe ecosystem does not have many grain farmers, so the Service provides some grain for feed. Several hay/cattle operations are near Ninepipe NWR and the Service takes partial payment on grazing fees by having the special use permittee plant wheat.

5. Grasslands

Grassland units on Flathead County WPA's are dominated by reed canary grass, quack grass, Kentucky bluegrass, creeping meadow foxtail, bluebunch wheat grass, basin wild rye, rough fescue, fowl bluegrass, redtop, and DNC with a scattered overstory of rose and snowberry. In upland areas, Canada

thistle and spotted knapweed are the main problem-producing noxious weeds. All upland units are managed to promote optimum nesting opportunities. Management practices include rotational burning, haying, grazing, and control of noxious weeds. Vegetative growth, mulch buildup and subsequent applied management are monitored through photo points and Robel readings.

Lake County WPA grasslands are composed primarily of quackgrass, Kentucky bluegrass and dense nesting cover (DNC) plantings. Older DNC plantings have weed problems, especially with whitetop (Cardaria draba).

7. Grazing

In 1994, the permittee continued annual shoreline grazing of Unit 8 on Smith Lake. The purpose of the graze is to provide goose browse for broods hatched on the WPA. Goose use of the shoreline was excellent this year as over 100 goslings were observed along the grazed shorelines. The same permittee also grazed the marsh area of Unit 4 on Smith Lake in January. Approximately 30 AUM's were removed. The purpose of the graze was to utilize trampling effects to "open up" the marsh to allow for additional pair habitat the following spring.

Unit 5 on Flathead WPA was grazed in August and September. The purpose of the graze was to provide additional goose browse the following spring. Approximately 69 AUM's were removed.

In Lake County, 120 acres were fall grazed at Duck Haven WPA as part of an Extension Agreement with an adjoining landowner. Under the agreement, the cooperator uses each of three units for up to 160 AUM's of fall grazing once every third year. In exchange, the Service receives the use of 15 acres of private land where a wetland restoration project was negotiated through the Partners for Wildlife Program.

At Sandmark WPA, 80 acres of grazing for 28 days was provided in March and April. The parcel was grazed in 20 to 40 acre blocks and received credit for erecting an electric fence to allow for this plan. The cooperator sprayed whitetop (Hoary cress) as partial payment of the grazing fee.

On Duckhaven and Anderson WPA's, grazing was used to manipulate grasslands to provide quality ground nesting bird cover. The Service traded a portion of the cooperator's fees for fence construction on the WPA's.

The Bison Range horses were put at Duckhaven WPA in November to graze for the winter.

8. Haying

Reed canary grass units surrounding Smith Lake WPA are hayed annually. The meadows are hayed in order to "open up the marsh" and provide additional pair habitat the following spring. In 1994, approximately 55 acres were hayed by two cooperators.

9. Fire Management

No prescribed burns were conducted on any of the WPA's within the Wetland District in 1994.

10. Pest Control

Canada thistle remained the most persistent and common noxious weed found on Flathead County WPA's. Infestations are widely scattered throughout the upland units making control difficult. Other noxious weeds include spotted knapweed and musk thistle. Knapweed infestations were found on Batavia, Blasdel, and Flathead. Musk thistle exists on upland units on Smith Lake and Batavia. In 1994, we spent 18 days spraying noxious weeds with the herbicide "Curtail". Force account efforts and cooperative work by the Weed Department using Curtail gave us excellent control over 70 percent of areas we spot sprayed. County weed personnel spent an additional 3 days assisting our efforts.

Noxious weed control is also a goal of rotational haying within upland units. Haying allows for additional control over larger tracts and reduces our dependency on chemicals. We have found that 2-to-3 year rotational haying within DNC stands, which cannot be sprayed with 2,4-D based chemicals, is giving us excellent control with little weed regrowth.

Biological control efforts in Flathead County included continued monitoring of the thistle head weevil (Rhynocyllus conicus).. Approximately 800 of the weevils were released in 1978 on Batavia WPA. Excellent results continued in the uplands and the WPA now serves as a source of the weevil for transplantation to other musk thistle infested areas.

In 1994, we continued our assistance to county weed personnel in locating purple loosestrife in Flathead County. State law has declared this plant a noxious weed and

prohibits "propagation of any variety thereof..." Enforcement is the responsibility of the county. In 1994, the Service gave the county a list of ornamental loosestrife locations. Using this list county personnel conducted a week long "blitz" of visiting these locations and bagging all loosestrife. One contact at an ornamental site often led to another and the county ended up with over 100 bags of loosestrife. To date, no loosestrife has been observed in any Flathead County wetlands, however monitoring is done each year.

Rachael Sykes, a Lake County employee stationed at the National Bison Range, has been doing research on biological control of purple loosestrife. This year she set up a site at Crow WPA, releasing 650 beetles (Galerucella californiensis and G. pusilla). Loosestrife should not disperse out of this area very easily. This is important because most loosestrife in this valley is being controlled by herbicides. If an area is not sprayed because it is an insect nursery, then it needs to be relatively safe from spread by moving water. Also, since this particular wetland doesn't have much duck use, seeds wouldn't stick to feet or wings. There is an inherent contradiction with biological control research. Exotic plants that are the focus of eradication have to be kept at viable levels to allow for the maintenance of the control insects.

Additional Galerucella sp. beetles were released on state and tribal lands adjacent to Ninepipe NWR in June. Also in June, 100 Urophora cardui gall flies were released on Kicking Horse WPA to help control Canada thistle.

Bill West coordinated the Annual Loosestrife Pull with the Flathead Audubon Society. On August 5, 14 people converged on two wetlands they have vowed to keep clean of loosestrife. Over the past 5 years, this seems to be working.

A grazing permittee at Sandmark WPA sprayed 15 acres for whitetop (Hoary cress). Another permittee sprayed for whitetop (Hoary cress) and spotted knapweed on 20 acres at Duckhaven WPA.

11. Water Rights

Water rights for Batavia and Smith Lake WPA's were purchased by the Service from the Ashley Irrigation District in 1981. At that time, \$5,000 was paid to acquire 1,445 acre-feet of

the waters of Ashley Creek; 745 acre-feet to be diverted for Batavia and 700 acre-feet for Smith Lake WPA. Montana statutes do not recognize a legal right to use water without an artificial diversion from the source; hence, the water right at Smith Lake provides for pumping from Ashley Creek. We did not exercise our right to pump this year because we do not have the means to pump out of the creek. In 1994, 157 acre-feet were diverted from Ashley Creek into the three marsh pools on Batavia WPA. Water was diverted to provide for pair and brood habitat. Deteriorated dikes within the WPA continued to cause water retention problems this year. The dikes are in a state of disrepair from age and extensive muskrat activity. Diverted water can be held within the marsh pools only by keeping the stoplogs in the main structure in Ashley Creek. This has the potential to interrupt rainbow trout movement in the creek. In addition, the City of Kalispell requires 15 cfs for proper dilution of sewage at their plant. Because of this, we have to recharge the WPA slowly while trying to maintain 15 cfs of overspill at the control structure. This year we recharged the marsh pools during the spring only. No recharges were attempted in the fall because of the condition of the dikes.

The water pumped into wetlands was accomplished by using water the Service has claim to because of acres we have enrolled under the Flathead Irrigation Project. The Service has 700 acres enrolled and pays \$20 per acre (\$14,000 per year). However, much of that water has never been used in past years on wildlands. Normally this irrigation project water can only be put on the specific acres that are enrolled. Negotiations between refuge staff and the project managers allowed the Service to put this water into wetlands on non-enrolled lands. The justification was drought relief for wildlife during this extremely hot and dry summer. Farmers and ranchers are not allowed to put project water on non-enrolled acres so there was some controversy over Service pumping. If we continue to augment wetlands by pumping, we will need to develop more specific agreements in the future.

13. WPA Easement Monitoring

Now that the Service has recently purchased 776 acres of easements, monitoring will begin in 1995.

G. WILDLIFE

2. Endangered and Threatened Species

In 1994, bald eagles continued to use the WPA's in Flathead County as nesting and loafing sites. Bald eagles were observed on nearly every visit to Flathead WPA. In cooperation with the State, we again completed the bald eagle survey in July of this year. Survey results indicated that both nests on Flathead WPA were utilized this year and five eaglets were fledged.

Use of the WPA by migrating and/or transient bald eagles also continued in 1994 with several other adults observed on numerous occasions. "Transient" eagles were often observed near the mouth of the Flathead River. These birds appeared to be using the "snags" along the WPA shoreline as occasional resting and loafing sites.

The Peregrine Falcon Hack Tower at Crow WPA, operated in cooperation with the Confederated Salish and Kootenai Tribe and the Peregrine Fund. It may have to be abandoned as a hacking site since one pair of peregrines returned this year, set up a nest and were very territorial. However, the birds were not successful in raising any young.

Grizzly bears frequented Ninepipe NWR and surrounding areas throughout the summer. The drought may have driven them out of the mountains and into these areas for food. An estimate of up to nine bears (two with cubs) were in the area for an estimated 200 "grizzly-use-days". One of the sows came up missing and one bear was found dead. See the 1994 Ninepipe NWR Narrative for details.

A total of 27 bald eagles (19 adults and 8 immatures) were seen during the 1994 National Audubon Society Christmas Bird Count held December 18. For more details of this count, see Section 7.

3. Waterfowl

Geese

The 1994 Canada goose aerial pair counts on Flathead County WPA's revealed a total of 98 pairs, a very slight decrease from 1993 figures. Brood counts conducted in early June indicated 266 goslings were produced on the 4 WPA's. This figure represents a 21 percent increase from last year's estimates.

Table III. Canada Goose Production, Flathead County
WPA's, 1994

Unit	Number of Pairs Observed	Number of Goslings Observed
Batavia	22	36
Smith Lake	37	105
Flathead	26	100*
Blasdel	13	25

* Estimated production; broods often move to the WPA from the Flathead River in search of loafing and feeding sites.

The valley-wide aerial census revealed 950 breeding pairs of Canada geese, up 3.3 percent from 1993. However, the number of pairs increased 28 percent when compared with the 13-year average. The valley-wide aerial brood count tallied 2,042 young, up 9.6 percent from last year.

Ducks

In Flathead County, duck pair habitat was very adequate throughout the months of April and May. Aerial surveys in April indicated most type I wetlands were holding water. Summer months were very dry. Less than 1/4 inch of precipitation was measured in July. Only 2.2 inches of rain fell during the three months of summer. As a result of the good water conditions in April and May, observed duck pairs this year increased nearly 23 percent from 1993 figures.

Duck production on Flathead County WPA's was calculated using a hen productivity rate of .40, based on the nesting data from Lake County WPA's. Using this productivity rate, an average brood size of 5.1 and a brood survival rate of .7, estimated production for 1994 came to 751, a 13.6 percent increase from last year's estimates. The increase in production can be attributed to an increase in the number of observed pairs.

Pair count data and production estimates for Flathead County units are summarized in Table IV.

Table IV. 1994 Duck Breeding Pair Counts and Estimated Production for Flathead County WPA's

Species	# Pairs	Production
<u>*Flathead WPA</u>		
Mallard	20	16
Blue-winged teal	1	1
Shoveler	1	1
Common merganser	<u>2</u>	<u>2</u>
* subtotal *	24	20
<u>*Batavia WPA</u>		
Mallard	40	33
Blue-winged teal	34	28
Shoveler	9	9
Redhead	1	1
Ring-necked duck	1	1
Ruddy duck	<u>2</u>	<u>2</u>
* subtotal *	87	74
<u>*Smith Lake WPA</u>		
Gadwall	1	1
Pintail	1	1
Blue-winged teal	83	68
Widgeon	12	12
Shoveler	2	2
Redhead	82	67
Canvasback	7	6
Lesser scaup	7	6
Ruddy duck	5	4
Mallard	97	80
Common goldeneye	5	4
Common merganser	3	2
Wood duck	<u>3</u>	<u>2</u>
* subtotal *	308	255
<u>*Blasdel WPA</u>		
Gadwall	7	6
Pintail	6	5
Blue-winged teal	5	4
Shoveler	17	14
Redhead	2	2

Table IV. 1994 Duck Breeding Pair Counts and Estimated Production for Flathead County WPA's (cont.)

Species	# Pairs	Production
<u>*Blasdel WPA (continued)</u>		
Lesser scaup	13	11
Common goldeneye	3	2
Bufflehead	5	4
Ruddy duck	14	12
Mallard	8	7
* subtotal *	80	67
*** Total ***	499	416

Estimated duck production for Lake County WPA's was calculated using a hen productivity rate of .48 based on nest success from nest monitoring on a portion of the WPA's. An average brood size of 4.5 was derived from the brood index counts, and we used an estimated .70 survival from the count average to flight stage. The nest count of Sandmark WPA in May turned up 156 duck nests on one 80-acre tract alone. Ten northern harrier nests were also discovered at this time.

Table V. 1994 Duck Breeding Pair Counts and Estimated Production for Lake County WPA's

Species	# Pairs	Production
<u>*Montgomery WPA</u>		
Cinnamon teal	15	23
Gadwall	5	8
Mallard	12	18
Redhead	15	23
Canvasback	1	2
Ring-necked duck	1	2
Ruddy duck	1	2
Northern shoveler	8	12
American widgeon	2	3
Bufflehead	1	2
Blue-winged teal	1	2
* subtotal *	62	97
<u>*Herak WPA</u>		
Gadwall	9	14
Green-winged teal	3	5
Mallard	15	23
Northern shoveler	11	17
Blue-winged teal	4	6
American widgeon	2	3
Redhead	1	2
Cinnamon teal	3	5
Ruddy duck	5	8
* subtotal *	53	83
<u>*Johnson 80 WPA</u>		
Blue-winged teal	2	3
Gadwall	6	9
Northern shoveler	6	9
Mallard	9	14
Cinnamon teal	4	6
Redhead	15	23
Lesser scaup	2	3
* subtotal *	44	67

Table V. 1994 Duck Breeding Pair Counts and Estimated Production for Lake County WPA's (cont.)

Species	# Pairs	Production
<u>*Sandsmark WPA</u>		
Mallard	84	127
Northern pintail	5	8
Cinnamon teal	19	29
Gadwall	13	20
Northern Shoveler	34	51
Redhead	28	42
Ring-necked duck	1	2
American widgeon	1	2
Ruddy duck	2	3
Green-winged teal	2	3
Lesser scaup	1	2
* subtotal *	190	289
<u>*Duck Haven WPA</u>		
Mallard	26	39
Northern shoveler	17	26
Gadwall	15	23
Cinnamon teal	20	30
Blue-winged teal	3	5
Northern pintail	2	3
American widgeon	1	2
Redhead	23	35
Ring-necked duck	1	2
Ruddy duck	6	9
Green-winged teal	1	2
Bufflehead	1	2
* subtotal *	116	178
<u>*Crow WPA</u>		
Mallard	99	150
Cinnamon teal	17	26
Northern shoveler	18	27
Redhead	12	18
Gadwall	10	15
Blue-winged teal	11	17
Green-winged teal	5	8
Northern pintail	4	6
Lesser scaup	11	17
American widgeon	5	8
* subtotal *	192	292

Table V. 1994 Duck Breeding Pair Counts and Estimated Production for Lake County WPA's (cont.)

Species	# Pairs	Production
<u>*Kickinghorse WPA</u>		
Lesser scaup	5	3
American widgeon	2	8
Northern shoveler	12	18
Mallard	17	26
Gadwall	7	11
Green-winged teal	5	8
Cinnamon teal	4	6
* subtotal *	<u>52</u>	<u>80</u>
*** Total ***	709	1086

In 1994, we continued to monitor waterfowl populations on all WPA's by aerial census flights and random ground counts done in conjunction with on-going work programs. Spring waterfowl populations on WPA's peaked in March when nearly 25,000 birds were observed.

Fall waterfowl populations peaked in late October when an estimated 18,250 ducks, geese, and swans were observed. The majority of these birds stayed in the area until late November when freeze-up occurred. However, hardy populations of mallards, Canada geese, scaup, redhead and, tundra swans continued to use the Flathead River, the lake's northern shoreline and warm water sloughs throughout December. Total waterfowl-use-days for the district were estimated at 2,788,350. Waterfowl population peaks are summarized in Tables VI and VII.

Table VI. Peak Waterfowl Populations, Spring Migrations

	1988	1989	1990	1991	1992	1993	1994
Swans	250	500	250	600	100	400	800
Canada Geese	750	600	250	1,200	1,150	1,500	6,000
Ducks *	7,480	5,200	18,300	9,350	6,045	4,550	18,100

Table VII. Peak Waterfowl Populations, Fall Migrations

	1988	1989	1990	1991	1992	1993	1994
Swans	140	125	350	250	150	300	100
Canada Geese	2,100	1,000	2,500	2,500	1,300	2,000	2,500
Ducks*	21,900	20,300	34,550	24,575	20,550	10,450	15,650

*Coot numbers are included.

During the 1994 Audubon Christmas Bird Count held on December 18, a total of 8,824 mallards and 1,331 Canada geese were seen.

A new wildlife concern occurred on July 14 when the Montana Waterfowl Association, a private breeder under Federal Permit, had to kill all the birds in one of their ponds due to avian tuberculosis.

4. Marsh and Water Birds

American bitterns, great blue herons, pied-billed grebes, eared grebes, and sora rails utilized the WPA's in Flathead County this year. Populations were monitored in conjunction with on-going field activities. Populations appeared to peak in July and August.

Two pairs of sandhill cranes were observed again on Batavia WPA in May. Two "colts" were observed with the adults in June. We also observed about 20 cranes on Smith Lake throughout the spring and early summer months.

Birds in this category observed during duck pair counts on Lake County WPA's included 85 American coots, 6 horned grebes, 4 red-necked grebes, 1 double-crested commorant, 4 great blue herons and 1 sora rail.

5. Shorebirds, Gulls, Terns & Allied Species

Bird species in this group which were observed again this year on Flathead County WPA's included spotted sandpipers, lesser yellow-legs, Wilson's phalaropes, dowitchers, snipe, avocets, ring-billed, and California gulls. Long stretches of open shoreline on Flathead WPA continue to attract thousands of gulls each year. Several hundred California gulls were also observed during the late summer months on Smith Lake WPA.

Volunteers Charles and Shirley Keller spent time in June checking on black terns at Duckhaven WPA. Black terns are a category 2 species in Montana. From observations of behavior, the Kellers concluded that there were at least 7 nests. The area seems to be prime habitat for black terns with good feeding areas in abundance. The area will be checked again next year.

The Kellers found adults and young of American avocet and Wilson phalarope on Crow WPA. A total of 38 avocets and 14 phalaropes were seen in Lake County WPA's during duck pair counts along with 7 killdeer and 4 common snipe. A long-billed curlew was observed flying over Crow WPA in April.

6. Raptors

Raptors that were commonly observed on Flathead County WPA's this year included: northern goshawk, northern harrier, red-tailed hawk, rough-legged hawk, Swainson's hawks,

osprey, golden eagle, bald eagle, great horned owl, short-eared owl, and kestrel. Nesting of short-eared owls and northern harriers has been documented in past years.

The first osprey sighting in Flathead County was on April 5. Warm, spring-like weather was likely a factor in the early sighting. Flathead WPA continues to attract a number of these birds each year. The birds generally arrive in early spring from their wintering grounds in Central America and Mexico. The WPA offers ideal nesting conditions, with many cottonwood snags and tree stumps located in the delta area; trees located along the lake's shoreline are also used as nest sites each year. Flathead Lake provides a convenient food source for these birds. In 1994, there were an estimated 19 nests on the WPA; actual production is unknown, but is estimated at approximately 40-50 young.

Raptors recorded during duck pair counts on Lake County WPA's included 22 short-eared owls and 2 northern harriers. Charles and Shirley Keller observed 24 short-eared owls near Crow WPA while checking the area for shorebird and tern nests.

The Ninepipe Wetland Complex (Ecosystem) is one of the best areas in the country for ground-nesting bird success and nest density. Short-eared owls and northern harriers are in extreme abundance in some areas. Sandmark WPA had 11 successful harrier nests on 300 acres of searched habitat. That is more successful nests than biologists estimated for the whole state of Iowa.

7. Other Migratory Birds

Washtak completed both "north-valley" mourning dove surveys again this year. The surveys were run in Flathead and Lincoln Counties. Only ten doves were observed this year on both routes. Generally, very cool weather in late May limits mourning dove sightings during the survey period; however, dove sightings are more common in northwest Montana during the warmer summer months.

Justin Paugh continued his voluntary monitoring of the nesting boxes at Smith Lake. Justin reported that his bluebird boxes were "taken over" by swallows this year. As a result no bluebirds were fledged on the WPA in 1994. Marion Kelly also continued to monitor a one mile bluebird trail in the vicinity of Batavia WPA and Smith Lake. In 1994, Marion reported that 6 of the 16 nests were occupied and 30 bluebird young were fledged.

Over 65 yellow-headed blackbirds were seen during duck pair counts on Lake County WPA's. Also seen were ten red-winged blackbirds, two marsh wrens, three barn swallows and two common ravens. Charles and Shirley Keller observed two male bobolinks near the Crow WPA along with song and savannah sparrows. These observations represent a great diversity of species, but not relative abundance. This valley has an abundance of most species mentioned.

The National Audubon Society held their Flathead Valley Christmas Bird Count on December 18. The area covered is a circle about 15 miles wide, centering around Ninepipe NWR and encompassing all the Lake County WPA's and the northeast corner of the National Bison Range. A total of 60 bird species were seen with a total of 13,811 birds counted. Of special note were the 8,284 mallard and 1,331 Canada geese. Also seen in large numbers were Bohemian waxwings (388), ring-necked pheasants (341) and rough-legged hawks (113). Bald eagles numbered 27 with 19 adults and 8 immatures tallied. White-crowned sparrows were censused for the first time this year.

8. Game Mammals

Whitetail deer are the most common big game animal observed on Flathead County WPA's each year. Aspen, willow, and cottonwood groves, as well as brushy areas on all north valley WPA's continue to provide year-round habitat; sightings of does and fawns were common this year. Dense cattail stands along the shoreline of Flathead WPA also provided excellent winter habitat. Mountainous, forested units on Smith have been designated by the State as winter range for the whitetails. Exact populations using the WPA's are unknown, but may be as high as 100-150 animals.

10. Other Resident Wildlife

Random observations indicated pheasant populations in Flathead County were down again this year. However, crow counts conducted by State biologists in the "lower valley" area continued to show a relatively stable population. No formal surveys are conducted.

Ring-necked pheasants were observed during the duck pair counts on Lake County WPA's. A total of 341 pheasants were seen during the December 12 Audubon Christmas Bird Count.

Four badgers were seen at Crow WPA during the duck pair count.

11. Fishery Resources

As in past years, Smith Lake WPA continued to support an excellent population of yellow perch. The State of Montana is responsible for management of the fishery resource in the lake; no management was applied this year as the resource continues to be self-sustaining.

15. Animal Control

This year was the last year of skunk control under the Nest Success Study (see D.5). The catch had declined steadily over the years from 1988 to 1993. Skunks were still trapped for the study in 1994 but then were released. Passive control measures have included covering old irrigation culverts with bars, removing rock piles and old buildings, screening the base of old buildings and filling dens in irrigation ditch banks with cement.

16. Marking and Banding

Banding waterfowl in Lake County is a cooperative effort with the Service, the Montana Cooperative Wildlife Research Unit, Montana Department of Fish, Wildlife and Parks and the Confederated Salish and Kootenai Tribes. Emily Miwa, a coop student, was detailed from the National Elk Refuge in Wyoming to help with banding. The quota for western Montana is 200 mallards in each age and sex category (adult male and female plus the immature male and female for a total of 800 birds). A total of 2,010 mallards were banded, but only 49 adult male and 61 adult females, well below the quota. However, 908 young males and 992 young females were banded. In all, a total of 2,286 ducks were banded in 1994, of which 94 percent were immature birds.

The Banding Office advised us of 49 band returns in 1994. Local returns numbered 36 (73 percent) with 7 returns (14 percent) from California. Other returns came from Idaho (2), Oregon (1), Arizona (1), Utah (1) and even one from Louisiana (1).



Figure 4. Lynn Clark, National Bison Range biological technician with Dan Liscomb, Tribal Fish and Game banding ducks.



Figure 5. Coop student, Emily Miwa banding ducks at Crow WPA in a cooperative effort with Tribal Fish and Game.

H. PUBLIC USE

1. General

Public use activities on Flathead County WPA's include pheasant hunting, waterfowl hunting, fishing, trapping, bird watching, deer hunting, and occasional cross-country skiing. The high population base in and around the city of Kalispell has resulted in a continued, high, sustained use of the WPA's. The northern part of the Flathead Valley continues to be "discovered". The Kalispell area continues to attract hundreds of new residents each year. As a result, both consumptive and non-consumptive uses will probably increase each year. State fishery biologists estimate fishing visits on Smith Lake alone account for over 8,000 visits each year.

Waterfowl, pheasant and gray partridge hunting are three of the public use activities on Lake County WPA's. The wetlands are open to fishing, but this is not a common use. Bird watchers visit the areas. Of special interest to this user group are the peregrine falcons found on Crow WPA and the chance to see snowy owls or gyrfalcons wintering on the flats.

Tribal officials closed the valley to recreational use on August 19 due to the extreme fire danger. WPA's were closed on August 23. Both bans were lifted August 30 in time for the opening of partridge season.

7. Other Interpretive Programs

Blasdel and Flathead WPA's are included in the local Audubon Club's annual "Christmas Bird Count Zone". Normal weather conditions contributed to an above average count totalling 86 species this year. Several raptor species, warblers, wrens and a Pacific loon were observed during the count.

8. Hunting

The 1994 duck and goose season opened on October 1. Car counts on all areas remained similar to other year's. Success was fair due to mild, bluebird weather. As in past years, Flathead and Smith Lake received the most pressure. Goose hunters in private pit blinds adjacent to and immediately north of Flathead enjoyed good goose hunting success. Duck hunting success improved as the season went on; freeze-up during the third week in November pushed the

birds to the Flathead River. Hunters who had access to the river or to private stubble fields continued to do well until the season closed on January 1.

In 1994, the State of Montana again divided the duck season into three openers in response to hunter preference for extended late season hunting opportunities. Duck season opened on October 1 then closed on the 16th. Average precipitation during the fall months did little to help water levels in potholes and sloughs. Hunting pressure was limited to the more permanent basins, the Flathead River, and the lake's shoreline areas. Blasdel WPA received very little hunter use after the opener because of low water levels and a lack of birds. The season opened again on October 22. Average weather conditions did little to improve the waterfowl hunting. Snow and freezing conditions in late November essentially ended the season before the November closing date. The season opened again on the 17th of December; however, hunting was restricted to the river and/or warm water sloughs in the county; duck season closed for the year on January 1. Hunter visits were estimated at 1,250, a 66 percent increase over 1993 estimated hunter visits.

The 1994 pheasant season opened on October 15. Pheasant hunting success was fair in the north end of the valley. As in past years, the most popular hunting area in Flathead County is the "lower valley" area south of Kalispell. This area is dominated by agricultural practices and includes both Flathead and Blasdel WPA's. Hunter use of the two units was average compared to previous years. Blasdel WPA received the majority of use. Success was fair and as in past years the WPA was virtually devoid of hunters by noon. Pheasant hunting activity during the remaining portion of the season was considerably less due to a lack of birds and the opening of big game seasons.

Deer hunters continued their use of Flathead WPA this year. The WPA lies within a State designated whitetail doe hunting district and as many as two additional doe tags could be purchased for either archery or rifle season. Because of this, the WPA remains a popular deer hunting area. Several reports of harvested deer were received, but were not documented by refuge personnel.

Opening day of pheasant season in Lake County (October 15) had 700 hunters out in spite of the cold, rainy weather. Law enforcement personnel counted 29 vehicles parked at Sandmark WPA, 69 vehicles along Duck Road and 204 vehicles along the normal count route. If this sounds dangerously

close to overcrowding, it is. During opening day, one hunter was accidentally shot in the eye by a hunter from another party. He lost sight in that eye. The shooter left the scene.

9. Fishing

As in past years, Smith Lake WPA continued as one of the most popular fishing spots for yellow perch in northwest Montana. The WPA receives heavy use throughout the winter and summer months. The Montana FWP has estimated annual fishing visits at over 8,000. Success varied with the time of the year. As in past years, March and August proved to be the "hot" months for fishing activity, (Figure 6).



Figure 6. Smith Lake ice fishermen in December. The WPA hosts the annual Sun Riser's fishing derby. About 250 hardy souls spent the day trying their luck. Success was good.
RW 12/94

10. Trapping

Trapping is permitted on all WPA's in accordance with State regulations. Flathead, Batavia and Smith Lake generally receive the most pressure. Muskrats are the most abundant furbearer. When inquiries are received about trapping the WPA's, individuals are asked to voluntarily report their success; however, no one called in this year.

17. Law Enforcement

Assistant Manager Washtak conducted all patrol work in Flathead County again this year. As in past years, law enforcement efforts were concentrated primarily on patrolling the WPA's during the waterfowl and pheasant seasons, investigating vehicle trespass on the lake's shoreline and pursuing reports of stray dogs harassing waterfowl. Stray dogs have been a problem for years on all the WPA's. County animal wardens are asked to assist, especially for related problems adjacent to the WPA's. Local, concerned citizens are also very helpful in reporting stray dogs. A few individuals even dispatched the roaming dogs during the year.

On several occasions, State wardens assisted with patrol of the WPA's. Their assistance resulted in several citations for late shooting and hunting in closed areas.

In Lake County, the law enforcement program centered around the hunting season openers for ducks, geese and pheasants. All three openers occurred during the month of October. Park Ranger Tony Pinelli and Refuge Officers Lynn Clark and Bill West conducted patrol on or near the eight WPA's, Ninepipe NWR, Pablo NWR and associated State, Tribal and private lands. These patrols were coordinated with State Warden Rick Schoening and two Tribal Wardens.

One citation was issued at Johnson WPA for an attempted take before hours. A \$50 bond was posted. A hunter on state land adjoining Ninepipe NWR lost an eye to a gunshot wound. The shooter left the scene and a reward was offered for information leading to the shooter's identification. A German shorthair was found in October, advertised and never claimed. It was adopted later in the year.

I. EQUIPMENT AND FACILITIES

1. New Construction

In April the deteriorated metal doors on the Quonset storage building were replaced with new aluminum overhead doors (Figures 7 & 8).



Figure 7. Photo is of the older, nearly useless doors on the Quonset building. Note the new door on the right. RW 4/94



Figure 8. All of the doors were eventually replaced making the building more "user friendly".
RW 5/94

2. Rehabilitation

Approximately 35 man-days were spent this year repairing boundary fences, H-braces and wire gates on Smith Lake, Batavia, Blasdel and Flathead WPA's.

Bio-aide Skramstad spent about 10 days inspecting boundary fence lines and making repairs where needed. His efforts were followed by about 35 days repairing boundary fences, H-braces and wire gates. This is an annual rehabilitation project. Fence lines and wire gates are damaged by the public, wildlife, vehicles and snow pack.

General fence repairs occurred on the Lake County WPA's in April and May. One-quarter-mile of new fence was constructed in the southwest corner on Duckhaven WPA. On Crow WPA, a quarter-mile of new fence was constructed on the southeast corner between the WPA and the Blevins property. Another eighth-mile section was constructed on Crow between the WPA and the Gerald Smith property.

4. Equipment Utilization and Replacement

In October, a new 25-hp Johnson outboard was installed on the Monark boat. The older motor had experienced a "flame-out" (so to speak).

In August, we received a surplus Ford 601 tractor from the Creston Hatchery. The tractor is used for mowing parking lots and access lanes on the WPA's.

J. OTHER ITEMS

4. Credits

Ray Washtak wrote the draft of all sections for Flathead County; NBR staff provided information and wrote the sections pertaining to Lake County WPA operations. Sharon Hooley and Sharol Birks of the Fish and Wildlife Center at Creston did the final proofing, word processing, printing and assembly.

K. FEEDBACK

For feedback, see the National Bison Range report.

SWAN RIVER NATIONAL WILDLIFE REFUGE

Kalispell, Montana

ANNUAL NARRATIVE REPORT

Calendar Year 1994

U.S. Department of Interior
FISH AND WILDLIFE SERVICE

NATIONAL WILDLIFE REFUGE SYSTEM

SWAN RIVER NATIONAL WILDLIFE REFUGE

Kalispell, Montana

ANNUAL NARRATIVE REPORT

Calendar Year 1994

<u> </u>	<u> </u>	<u>David Wiseman</u>	<u>9/5/96</u>
Refuge Manager	Date	Project Leader	Date

L. Berry 9-17-96
Refuge Supervisor Review Date

Paul E. Smith 9/19/96
Regional Office Approval Date

INTRODUCTION

The Swan River National Wildlife Refuge is located in northwest Montana, 38 miles southeast of the town of Creston, in the serene and picturesque Swan Valley Mountain Range. The Refuge was established in 1973 at the request of Montana Senator Lee Metcalf, who desired to see the area preserved. The Refuge was established under authority of the Migratory Bird Conservation Act. It consists of 1,568 acres, with an additional 210-acre Forest Service inholding that is managed under a Memorandum of Understanding. The refuge boundary lies within the floodplain of the Swan River above Swan Lake and between the Swan Mountain Range to the east and the Mission Mountain Range to the west. The valley was formed when glacial water poured down the steep slopes of the Mission Range into Flathead Lake. The valley floor is generally flat, but rises steeply to adjacent forested mountain sides. Approximately 80 percent of the refuge lies within this valley floodplain, which is composed mainly of reed canary grass. Deciduous and coniferous forests comprise the remaining 20 percent. Swan River, which once meandered through the floodplain, has been forced to the west side of the refuge by deposits of silt, leaving a series of oxbow sloughs within the refuge floodplain.

The purpose of the refuge is "...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds". Objectives of the refuge are to provide for waterfowl habitat and production and to provide for other migratory bird habitat. The refuge also provides a nesting site for a pair of southern bald eagles and a variety of other avian species. In addition, deer, elk, moose, beaver, bobcat, black bear and grizzly bears are known to inhabit the area. There are no significant developments or facilities on the refuge and present management is directed at maintaining the area in its natural state. The refuge is a satellite unit of the National Bison Range. Day-to-day administration and operations are the responsibility of the on-site Refuge Manager located at Creston, Montana, 38 miles northwest of the refuge.

TABLE OF CONTENTS

A.	HIGHLIGHTS	7
B.	CLIMATIC CONDITIONS	7
C.	LAND ACQUISITION	8
	1. Fee Title	8
	2. Easements	Nothing to Report
	3. Other	Nothing to Report
D.	PLANNING	8
	1. Master Plan	Nothing to Report
	2. Management Plan	Nothing to Report
	3. Public Participation	Nothing to Report
	4. Compliance with Environmental & Cultural Resource Mandates	Nothing to Report
	5. Research & Investigations	Nothing to Report
	6. Other	Nothing to Report
E.	ADMINISTRATION	9
	1. Personnel	9
	2. Youth Programs	Nothing to Report
	3. Other Manpower Programs	Nothing to Report
	4. Volunteer Programs	9
	5. Funding	Nothing to Report
	6. Safety	9
	7. Technical Assistance	Nothing to Report
	8. Other	Nothing to Report
F.	HABITAT MANAGEMENT	9
	1. General	Nothing to Report
	2. Wetlands	9
	3. Forests	10
	4. Croplands	Nothing to Report
	5. Grasslands	Nothing to Report
	6. Other Habitats	Nothing to Report
	7. Grazing	10
	8. Haying	10
	9. Fire Management	Nothing to Report
	10. Pest Control	10
	11. Water Rights	Nothing to Report
	12. Wilderness and Special Areas	Nothing to Report
	13. WPA Easement Monitoring	Nothing to Report

G.	WILDLIFE	11
1.	Wildlife Diversity	Nothing to Report
2.	Endangered and/or Threatened Species	11
3.	Waterfowl	12
4.	Marsh and Water Birds	15
5.	Shorebirds, Gulls, Terns & Allied Species	15
6.	Raptors	16
7.	Other Migratory Birds	Nothing to Report
8.	Game Mammals	16
9.	Marine Mammals	Nothing to Report
10.	Other Resident Wildlife	16
11.	Fisheries Resources	16
12.	Wildlife Propagation & Stocking	Nothing to Report
13.	Surplus Animal Disposal	Nothing to Report
14.	Scientific Collections	Nothing to Report
15.	Animal Control	Nothing to Report
16.	Marking and Banding	Nothing to Report
17.	Disease Prevention & Control	Nothing to Report
H.	PUBLIC USE	17
1.	General	17
2.	Outdoor Classrooms-Students	Nothing to Report
3.	Outdoor Classrooms-Teachers	Nothing to Report
4.	Interpretive Foot Trails	Nothing to Report
5.	Interpretive Tour Routes	Nothing to Report
6.	Interpretive Exhibits/ Demonstrations	Nothing to Report
7.	Other Interpretive Programs	Nothing to Report
8.	Hunting	17
9.	Fishing	18
10.	Trapping	Nothing to Report
11.	Wildlife Observation	Nothing to Report
12.	Other Wildlife Oriented Recreation	Nothing to Report
13.	Camping	Nothing to Report
14.	Picnicking	Nothing to Report
15.	Off-Road Vehicling	Nothing to Report
16.	Other Non-Wildlife Oriented Recreation	Nothing to Report
17.	Law Enforcement	18
18.	Cooperating Associations	Nothing to Report
19.	Concessions	Nothing to Report

I.	EQUIPMENT AND FACILITIES	19
	1. New Construction	Nothing to Report
	2. Rehabilitation	Nothing to Report
	3. Major Maintenance	Nothing to Report
	4. Equipment Utilization & Replacement	19
	5. Communication System	Nothing to Report
	6. Computer Systems	Nothing to Report
	7. Energy Conservation	Nothing to Report
	8. Other	Nothing to Report
J.	OTHER ITEMS	19
	1. Cooperative Programs	Nothing to Report
	2. Other Economic Use	Nothing to Report
	3. Items of Interest	Nothing to Report
	4. Credits	19
K.	FEEDBACK	
L.	INFORMATION PACKET	

A. HIGHLIGHTS

Low mountain snowpack resulted in the least amount of annual flooding on the refuge in 10 years. (Section F.2.).

Estimated duck production decreased 22 percent; Canada goose production increased 278 percent (Section G.3.).

The bald eagle pair hatched and successfully fledged two eaglets (Section G.2.).

Snowfall on the valley floor was below average, (Section B.).

B. CLIMATIC CONDITIONS

In 1994, snowfall totalled nearly 106", an increase of over 50 percent from 1993 amounts. Total precipitation was 23.06", 13 percent below the 12-year average. Mountain snowpack averaged 75 percent below normal through February. March was the driest on record. The lack of mountain snow and below normal precipitation through August resulted in the least amount of flooding on the refuge in 10 years. It was estimated that only 60 percent of the refuge flooded this year.

Very warm temperatures prevailed throughout the summer months. Precipitation in July and August totalled .34", 90 percent below the 12-year-average. The hot dry weather continued into September. Numerous, small forest fires were reported in the Swan Mountain Range; no fires occurred on the refuge. Temperatures were near normal for the remainder of the year and precipitation during the last three months totalled over 13".

November brought the year's first significant snowfall when 20" fell on the refuge during the month. Interior wetlands froze near mid-November. Temperatures dropped to below zero in December. Swan Lake froze over on December 31. At year's end the refuge was covered by only 2 feet of snow.

Climatic data for the refuge is provided by Adolf Kopp Jr. who lives in the town of Swan Lake adjacent to the refuge. Adolf is under contract with the National Oceanic and Atmospheric Administration and voluntarily supplies the data listed in Table I.

Table I. 1994 Climatic Data, Swan River National Wildlife Refuge

MONTH	TEMPERATURE		PRECIPITATION (INCHES)		SNOWFALL
	HIGH	LOW	1994	12-YR AV.	1994
January	48°	8°	1.47"	3.12"	7.0"
February	51°	-25°	.96"	2.54"	30.0"
March	63°	13°	trace	2.06"	trace
April	76°	19°	1.02"	1.49"	2.0"
May	82°	30°	2.39"	2.41"	.0"
June	88°	34°	3.60"	1.98"	.0"
July	95°	37°	.30"	1.57"	.0"
August	95°	37°	.04"	1.62"	.0"
September	83°	29°	.17"	1.59"	.0"
October	68°	23°	5.35"	1.76"	2.2"
November	40°	3°	3.13"	2.98"	20.0"
December	45°	- 8°	4.63"	3.48"	44.5"
			23.06"	26.60"	105.7"

C. LAND ACQUISITION

1. Fee Title

There was no land acquisition in 1994. Several meetings concerning the BPA/KERR mitigation process were held again this year. As in previous years, the two mitigation programs continued to be bogged down in bureaucratic red tape. In late December word was received that the owners of two small islands in Swan Lake were willing to donate the parcels to the Service. One of the islands lays adjacent to the refuge. Both islands total less than 1 acre. A biological justification was prepared and the matter turned over to realty. The Wetland District Narrative contains specific information concerning the status of the two mitigation programs.

E. ADMINISTRATION

The Swan River NWR is a satellite unit of the National Bison Range (NBR) and is staffed by the Refuge Manager located at the Creston Fish and Wildlife Center. Refuge activities such as budgeting, detailed administrative and operational functions are supervised by the Project Leader at NBR. Day-to-day administrative functions are aided by the administrative clerks located at the Creston Fish and Wildlife Center. Refer to the Wetland District Narrative for administrative details.

1. Personnel

Budgetary constraints in FY 94 precluded the hiring of the summer bio-tech position for both the refuge and wetland district. In mid-June Jon Skramstad was brought on board on a 30-day emergency appointment which was extended for an additional 30 days. Jon assisted with posting and census on the refuge along with many wetland district responsibilities.

4. Volunteer Programs

During the summer months, Ellie Jones, a resident of Swan Lake and an Audubon member continued her voluntary efforts in keeping the refuge information box supplied with refuge maps, FWS brochures and bird lists.

6. Safety

When safety meetings were held by the hatchery staff, refuge personnel attended.

F. HABITAT MANAGEMENT

2. Wetlands

Approximately 1,254 acres of the refuge are classified as a wetland/grassland complex. All of this acreage lies within an "alluvial floodplain" adjacent to the south end of Swan

Lake. Vegetation is composed primarily of dense stands of reed canary grass.

With the exception of a culvert under Bog Road in Spring Creek and a staff gauge within the creek, which has been used for recording water flow levels, no other water control facilities or developments exist on the refuge.

Approximately 65 percent of the refuge flooded this year. Flooding generally occurs in May, and June when mountain snowpack begins to melt. Despite warm temperatures in March, April and May, runoff was considerably lower than in past years due to the lack of snowpack. Extremely warm temperatures during the summer and lack of precipitation resulted in the reed canary grass meadows drying out by early August. Flood waters enter the refuge through the principal tributaries of Swan River, Bond Creek, Yew Creek, and Spring Creek.

3. Forests

Forested areas comprise approximately 313 acres of the refuge. Wooded tracts lie primarily on the west, south and southeastern portions of the refuge. Major tree species include old growth fir, spruce, cedar, and larch. Large cottonwood trees are found along the shores of Swan River. All forested units are maintained in their natural state.

7. Grazing

There was no grazing on the refuge this year due to wet soil conditions. The lack of interior cross fences and suitable permittee(s) also limits our use of this management tool.

8. Haying

There was no haying on the refuge this year. For several years attempts have been made to locate permittees, however there have been no "takers". There is little farming and ranching activity in the Swan Valley and hay cooperators near Kalispell are unwilling to travel the distance to the refuge.

When haying is done this management tool is used to "open up" the dense stands of reed canary grass, thus providing additional pair and brood habitat.

10. Pest Control

Canada thistle continues to be the most persistent noxious weed found on the refuge. Infestations are generally limited to elevated upland sites and the nesting islands located in the northwest portion of the refuge. Several days were spent pulling and chopping Canada thistle on elevated sites within the refuge.

G. WILDLIFE

2. Endangered Species

The Swan and Mission Mountain Ranges have been designated as a "habitat corridor" of the threatened grizzly bear. The Montana Department of Fish, Wildlife, and Parks (MDFWP) continued their study this year to determine the status of the grizzly in the northern end of this range. No formal studies were made on the refuge. Data collected by state biologists indicate that the population is healthy and increasing within the corridor. This has led to some discussion of de-listing the bear but no decision has been made. There were no sightings of grizzlies on the refuge this year.

The nesting pair of bald eagles were sighted on the refuge in March. Two eaglets were fledged in mid-May. The pair and young were observed utilizing the refuge and the surrounding area on several occasions, presumably feeding on waterfowl, fish, and rodents. In cooperation with State monitoring efforts, we again recorded our periodic observations of the eagles and submitted the annual state bald eagle nesting forms. Since 1987, 14 eaglets have been fledged at the Swan nest site.

On several other occasions during the year, "transient" eagles were observed on the refuge. These birds spent varying lengths of time on, in or near the refuge, then presumably moved to other locations within the Swan Valley. In June, an additional adult and two immature eagles were observed roosting in old cottonwood snag trees along the river.

3. Waterfowl

In 1994, observed duck pairs increased 53 percent from 1993 figures. (Table II).

Table II. Pair Count Data 1989 - 1994

SPECIES	1989	1990	1991	1992	1993	1994
Mallard	54	39	81	110	71	108
Cinnamon/BW teal	30	19	26	24	21	36
Common goldeneye	30	0	25	28	24	25
Wood duck	3	5	10	5	5	9
Common merganser	8	2	0	3	0	6
Widgeon	3	0	2	2	1	5
Pintail	3	0	1	0	0	0
Ring-necked duck	1	6	1	5	5	8
Barrows goldeneye	0	0	0	0	0	0
Shoveler	3	0	2	0	4	0
Bufflehead	0	11	1	0	4	5
Green-winged teal	0	0	0	0	0	0
Gadwall	1	0	0	0	2	0
Lesser scaup	4	0	5	0	2	6
Hooded merganser		3	1	0	0	5
Total	141	85	155	177	139	213

1994 duck production figures were calculated using a hen productivity rate of .40, based on nest searches conducted on Lake County WPA's. Using this productivity rate, an average brood size of 5.1, and a brood survival rate of .7, estimated production for 1994 came to 304, a 54 percent increase from 1993 production estimates (Table III).

Table III. Estimated Duck Production, 1986-1994 Swan River National Wildlife Refuge

	1986	1987	1988	1989	1990	1991	1992	1993	1994
Ducks	150	172	91	147	39	175	256	198	304

The reason for the increase in production can be directly attributed to an increase in the number of observed pairs.

As in past years, waterfowl population estimates were based on aerial census flights and random ground counts made in conjunction with on-going work activities. Peak populations are listed in Tables IV and V. Total waterfowl use-days this year were estimated at 241,590, a 22 percent increase from CY 93 estimates.

Table IV. Peak Waterfowl Populations, Spring Migrations Swan River National Wildlife Refuge

	1986	1987	1988	1989	1990	1991	1992	1993	1994
Swans	16	100	136	180	150	100	10	125	200
Canada geese	75	150	150	205	400	150	140	250	350
Ducks	367	215	535	2595	1650	5600	500	1465	2585

Table V. Peak Waterfowl Populations, Fall Migrations
Swan River National Wildlife Refuge

	1986	1987	1988	1989	1990	1991	1992	1993	1994
Swans	10	35	36	*55	150	250	25	50	150
Canada geese	175	175	275	150	350	200	200	200	200
Ducks	847	495	1086	550	2235	2550	340	1945	885

*Observed in December

Canada goose production estimates are based on aerial pair counts done in April, followed by aerial brood counts in early June. Documenting actual nesting on the refuge is difficult due to high water levels and general inaccessibility of the refuge. It appeared that no nesting occurred in elevated structures this year.

Canada goose production estimates are listed in Table VI. These figures may or may not represent actual production on the refuge. As in previous years, broods hatched within the Swan River/Lake system often migrate to the refuge in search of food, loafing sites, or for safety. Figures listed in Table VI reflect observations made on the day of the aerial survey and do not necessarily reflect actual refuge production. However, these aerial counts, conducted since the mid-70's, are our most accurate index of goose production in the Swan Lake/Refuge system.

In 1994, there was an apparent decrease of 10 percent in the number of observed pairs; however, estimated production decreased by nearly 90 percent. The reason for this large decrease in production is unknown but may be attributed to these factors; we were not able to observe all goose broods on the day of the flight; the broods just weren't around on that particular day; an increase in predation could be a factor but predator sightings (primarily coyotes) did not increase in 1994.

Table VI. Swan River NWR, Canada Goose Breeding Pairs and Estimated Production.

	1986	1987	1988	1989	1990	1991	1992	1993	1994
Breeding Pairs	40	32	25	34	42	23	38	29	26
Number of Young Observed	67	38	77	45	84	32	26	85	9

In 1994, we continued our voluntary monitoring efforts with the Swan Lake Chapter of the Audubon Society in an attempt to locate loon nests on the refuge. Several loon calls were heard again in May and early June. One loon was observed on the lake in mid-June about 1/8 mile west of the Forest Service boat access ramp. No loon nests were observed on the refuge this year.

4. Marsh and Water Birds

Annual flooding of the refuge in the late spring and early summer months provided excellent marsh habitat for soras, pied-billed grebes, red-necked and horned grebes, American bitterns, great blue herons, and many other species of marsh and water birds. Populations peaked during the mid-summer months; as cooler weather set in during September this group of birds readily departed for warmer climates. Nesting probably occurred on the refuge this year, but was not documented. In 1994, it was observed that the great blue heron rookery near the mouth of Spring Creek was no longer active.

5. Shorebirds, Gulls, Terns & Allied Species

Species utilizing the refuge again this year included California and ring-billed gulls, black tern, Wilson's phalarope, common snipe, American avocet, killdeer, and several species of sandpipers. Populations peaked in July and August; use-days were estimated at 50,550.

6. Raptors

Coniferous and deciduous forest areas on the refuge continued to offer excellent resting and loafing sites for many raptor species. Northern harriers, Swainson's hawks, red-tailed hawks, and great-horned owls are commonly observed on nearly every visit to the refuge. Nesting has occurred in the past but was not documented this year.

8. Game Mammals

The refuge continued to provide excellent year-round habitat for many of the big game mammals found in the State of Montana. Deer tracks and elk tracks are commonly seen in most upland areas on the refuge and on Bog Road. As in past years, white-tailed deer were the most commonly observed game mammal. Resident populations were estimated at over 50. Fawning probably occurs but was not documented.

10. Other Resident Wildlife

Coyotes, beaver, muskrat, and raccoons are known to inhabit the refuge. As in past years, observations were generally made near the river and on backwater sloughs within the refuge.

As was the case in 1993, we did not observe any increase in new beaver activity along the Swan River this year. Prolific beaver activity along the shoreline of Swan River in past years has resulted in destruction of many old growth cottonwood trees. The reason for the continued decline in beaver activity is unknown, but may again be attributed to a cyclic decline in the beaver population. Illegal trapping may also have an impact on the population.

11. Fisheries Resources

Game fish common to Swan River and Swan Lake include yellow perch, bull trout, northern pike, kokanee salmon, largemouth bass, cutthroat, brook trout, and mountain whitefish.

As in past years, densely vegetated areas of Spring Creek, which empties into Swan Lake on the northeast corner of the refuge, provided excellent pike spawning habitat. During the May waterfowl pair counts when water levels were high, we observed many large "swirls" within the creek and

interior borrow ditches indicating continued use of the area by spawning females. The Creek was closed to fishermen as part of the annual refuge closure from March 1 - July 15 (Section H.1.).

H. PUBLIC USE

1. General

Despite the refuge's generally secluded, out-of-the-way location, annual flooding and lack of established interpretive foot trails, non-consumptive public use of the refuge increased this year. We have no accurate way of determining actual use, but based on random "car counts", discussions with the "locals" and demand for the refuge leaflets we may have had as many as 5,000 - 6,000 non-consumptive visits this year. The reason for the suspected increase in visits may be attributed to the wildlife viewing signs which were installed along Highway 83 a few years ago and our new refuge information box. Whenever visits to the refuge were made for on-going work programs, we usually observed several vehicles parked in the parking lot.

8. Hunting

Approximately 40 percent of the refuge is open to waterfowl hunting. The majority of the waterfowl hunt area is located north of Bog Road and along portions of Swan River. Steel shot is required. Big game and upland game bird hunting is prohibited.

In 1994, the duck season was split with three separate openers. The season opened for ducks and Canada geese on October 1; the duck season closed on the 16, opened again on October 22, closed on November 27 and finally re-opened December 17; the season remained opened until January 1. Canada goose season remained opened from October 1 through January 8.

Several parties were out for the initial opener and had constructed temporary blinds along the lake's shoreline. Goose hunting efforts are combined with duck hunting. In 1994, several geese were checked on opening day.

Moderate weather in early October continued into mid-November when interior potholes in the refuge froze. Late season hunting activity was limited to open stretches of the Swan River, however success was limited due to cold weather and a lack of birds. Total waterfowl hunting visits this year were estimated at 165, nearly a 50 percent decrease from last year's estimates. Mild weather and a general lack of birds during the hunting season are suspected to be the main factors in the decline.

9. Fishing

Fishing activity on the refuge is limited to Spring Creek, after the closure period. Those portions of Swan River which flow through the refuge are open year round. However, fishing activity is limited due to high water levels during the spring months and low flows in late summer and early fall.

The most popular fishing spot on Swan Lake continued to be at the mouth of Spring Creek just outside the refuge boundary. Northern pike often lie in the reed beds before going upstream to spawn in the dense aquatic vegetation inside the refuge boundary.

17. Law Enforcement

The refuge was patrolled on opening day of waterfowl season this year; no citations were issued. As in past years, other patrol efforts in 1994 were made in conjunction with on-going work activities, including patrol of the Spring Creek access site. Several calls were received this year about illegal beaver trapping along the river and continued snowmobile use in the winter. Apparent calls like these are difficult to "track down" because the calls usually come in "after the fact". Response time is often delayed due to other on-going activities and the distance to the refuge.

Washtak assisted with the annual NBR L.E. re-qualification in September, as well as the annual 40-hour in-service training in Tucson, Arizona.

I. EQUIPMENT AND CONSTRUCTION

4. Equipment Utilization and Replacement

All equipment utilized on the refuge is also used in daily operations and work activities on Flathead County WPA's. See the Wetland District Narrative for further information.

J. OTHER ITEMS

4. Credits

Ray Washtak wrote this report. It was edited by Dave Wiseman and typed by Sharon Hooley.